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Outlook for INDIA as a MARKET for COTTON by 1961

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U. S. DEPARTMENT OF AGRICULTURE

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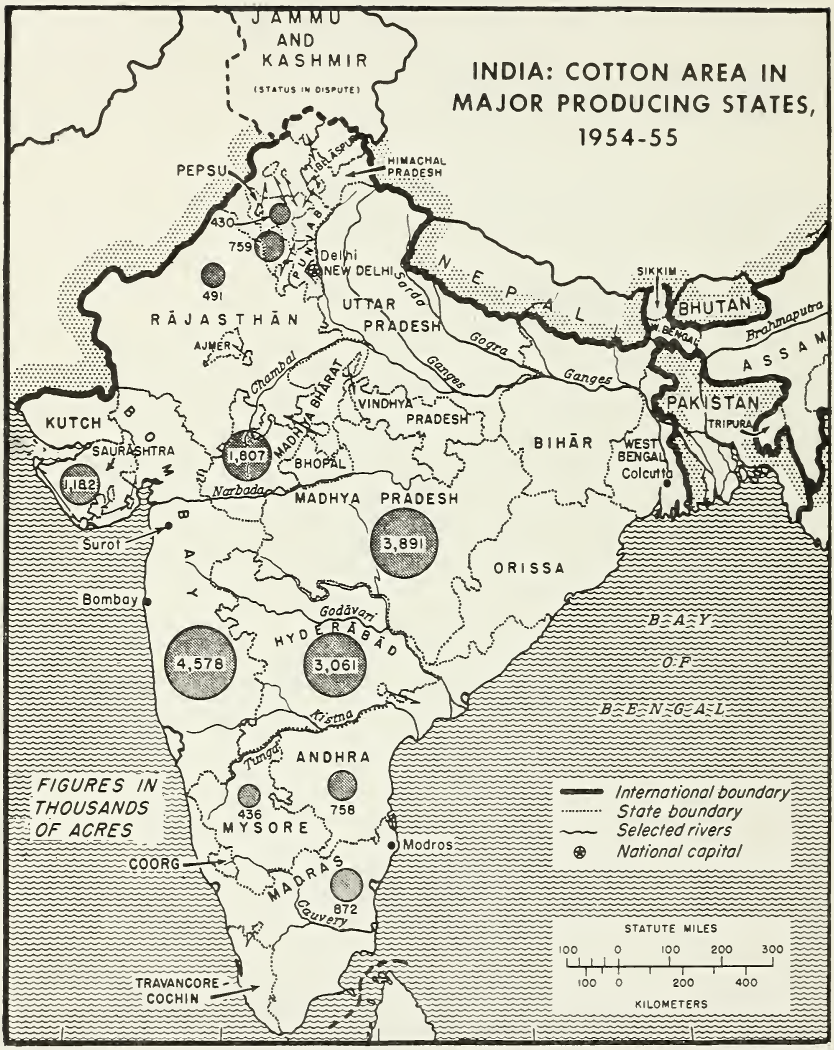

INDIA: COTTON AREA IN MAJOR PRODUCING STATES, 1954-55

U. S. DEPARTMENT OF AGRICULTURE

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The authors gratefully acknowledge the valuable suggestions contributed during the preparation of the original report by E. J. Overby, Director, Cotton Division, Agricultural Marketing Service, and by C. C. Campbell of the National Cotton Council, formerly Acting Director, Cotton Division, Foreign Agricultural Service, during their respective visits to Bombay in 1955.

Outlook for

INDIA AS A MARKET FOR COTTON BY 1961

By Eric B. Shearer and V. Krishnamurthy*

Introduction

World War II, partition, and subsequent developments have caused substantial changes in the volume and pattern of Indian cotton production, consumption, and imports. Even before the war, India was near the end of an important transition—from supplier of raw cotton for the mills of Lancashire to one of the world's largest producers of cotton textiles. Wartime demands greatly accelerated this trend. Then partition transferred to Pakistan a large part of the Punjab—one of India's most important cotton-growing areas. The new Indian Republic's textile industry was left with a cotton supply far short of its requirements. As a result, India embarked on an ambitious cotton development program. Meanwhile, huge imports were needed to tide the industry over.

The United States was the only country then in a position to supply the required quantities. Indian importers and mills found themselves handling large amounts of U. S. cotton, with which they had had practically no previous experience. Now, however, the cotton development program—and timely rains—have increased India's production of raw cotton to the point where imports can be limited to the quantity of long staples required for spinning yarns and not available from the domestic crop. Imports from the United States in the seasons of 1952–54 were at a more "normal" level, averaging about 137,000 Indian bales (of 392 pounds net). During the 1954–55 season, they dropped to 93,000 bales; for the first 6 months of the 1955–56 marketing year they were only about 7,000 bales, despite the inclusion of cotton in the U. S. foreign aid program for India in early 1955. Imports from British East Africa, India's principal supplier of long staple cotton, have been fairly steady at a relatively high level.

All available evidence indicates that the 1953–54 and 1954–55 seasons represent "normal" supply and demand conditions in India's cotton industry. Thus, 1956 might be a good time to look at the near future. India's trade experts and the planners of its cotton development program predict that by 1961—the final year of the Second Five-Year Plan—India will be in a position to produce virtually all its raw cotton requirements and be independent of imports except for extra-long staples. The purpose of this report is to evaluate these contentions.

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*This paper is based on a report prepared in early 1955, when Mr. Shearer was Agricultural Officer, and Mr. Krishnamurthy, Economic Assistant, at the American Consulate General, Bombay, India.

Some of the more optimistic experts reacted with skepticism to the idea of an analytical forecast. However, both official and unofficial sources cooperated in making available such data and opinions as were solicited, and the analysis could hardly have been attempted without this cooperation.

Summary

Unpredictable factors are involved in forecasting unit yields, per capita consumption, the general institutional outlook, and future government policies. Subject to this reservation, the Indian cotton picture will look as follows in 1961:

—The domestic cotton crop, given average weather, will rise to about 5.7 million bales, from an average of 4.4 million bales in the past 5 years (trade estimate). Production of long staple cotton (1$\frac{1}{16}$ inches to 1$\frac{1}{4}$ inches) will rise to about 175,000 bales from the current negligible level. However, considerable improvement of existing strains will be necessary to make them comparable with foreign growths in overall spinning quality. Total production of cotton stapling 1 inch and over is likely to be about 350,000 bales, or three times the 1953–54 output. Production of cotton stapling less than 1 inch will amount to about 5.4 million bales, of which 1 million bales will be less than $\frac{11}{16}$ inch. There will be a surplus of short staple cotton (less than 1$\frac{1}{16}$ inches)[1] amounting to somewhat over 400,000 bales.

—The annual per capita consumption of cloth will rise to about 18 yards, compared with 15 to 16 at present. For a larger population (assuming exports at about the current level), total cloth output would need to be 8,200 million yards. At least 2,000 million must come from hand looms and small power-loom units, for the government is unlikely to permit any expansion of mill loomage. Of the total, 7,200 million yards will be domestically consumed and 1,000 million exported.

—Total cotton yarn requirements for all uses (including nonweaving industries) will be 1,900 million pounds, equivalent to about 5.7 million bales of raw cotton at the 1954 ratio of about 1.17 pounds of cotton per pound of yarn.

—Since there is no reason to assume any significant shift in the pattern of yarn or cloth output, the demand for cotton is likely to run as follows: *Short staple* (below 1$\frac{1}{16}$ inches)—all domestically produced—4.8 million bales for mills and 270,000 bales for nonmill uses; *long staple* (1$\frac{1}{16}$ inches to 1$\frac{1}{4}$ inches), 550,000 bales, of which 375,000 bales must be imported; *extra-long staple* (over 1$\frac{1}{2}$ inches), 350,000 bales, also to be imported. The extra-long staple will continue to come from Egypt, the Sudan, and Peru. Of the 375,000 bales of long staple, Uganda may be expected to furnish 250,000 and the Sudan 25,000. This means that imports of long staple from the United States will remain at a marginal 100,000 bales a year (assuming that only negligible quantities are bought from other competing countries such as Mexico, Brazil, and Russia).

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[1] The staple classifications used in this report are those current in India; the bales are Indian bales of 392 pounds net.

Cotton Production

Background

According to the Ministry of Food and Agriculture, cotton production during 1954–55 totaled not quite 4.3 million bales. Prominent trading firms, whose estimates are generally closer to the mark, put the crop at somewhat over 5.4 million bales. The official estimate (adjusted to include the entire crop area) represents an increase of 64 percent over 1949–50, when the program to boost production began.

During and immediately after the war, greater food needs made a sharp cut in India's cotton acreage—from 23.5 million acres in 1938–39 to only 14.9 million in 1946–47. This curtailment, together with the loss of about 4 million cotton acres to Pakistan, added up to a drastic shortage of domestic cotton for the Indian textile industry. Most of the industry remained in India, while 32 percent of the cotton acreage, producing 38 percent of the crop, became part of Pakistan. Thus in 1949, the year Pakistan decided not to devalue its currency—while India did—and trade came to a halt, a total of nearly 1 million bales of traditional supply—mostly of ⅞ inch to 1 inch cotton—were completely lost to Indian mills.

As an interim measure, India permitted large imports, at the same time setting in motion an ambitious program to step up domestic production. This program was subsequently integrated with the First Five-Year Plan.

The First Five-Year Plan, launched on April 1, 1951, envisaged an increase of 1,258,000 bales in domestic cotton production by 1955–56, through expanded acreage and higher unit yields. This target was reached a year ahead of schedule. By official estimate, production increased from 2,971,000 bales in 1950–51 to 4,227,000 bales in 1954–55. According to trade sources the 1954–55 crop actually exceeded 5,400,000 bales. The 1955–56 crop, however, was only 4 million bales by official estimate and 4.6 million by trade estimate.

The plan called for bringing an additional 3.5 million acres under cotton, both by reclaiming uncultivated areas and by diverting certain lands from food crops to cotton. The Government of India provided a further incentive by continuing the price support program, under which it guarantees to buy cotton at the established minimum prices whenever market quotations drop below these levels. As a result of these efforts the cotton area increased from 14,600,000 acres in 1950–51 to 18,700,000 in 1954–55.

The average yield per acre in the 15 years ended 1950–51 was only 79 pounds—lowest in the world, even after allowing for official underestimation, and excluding the extremely unfavorable 1942–43 and 1948–49 seasons. More than 90 percent of the crop is rain-fed, and the vagaries of the monsoon bring considerable variation from year to year. Under the First Five-Year Plan, measures taken to boost the unit yield included the distribution of fertilizer and better seed, the expansion of irrigation facilities, and the appointment of cotton extension officers in the main cotton-growing States, to encourage the adoption of improved agricultural practices. These measures, together with unusually favorable rains, raised the yield to an average of about 90 pounds in 1953–54 and 1954–55. But in 1955–56 less favorable growing weather on an apparently overextended acreage cut the yield to 77.5 pounds.

India has also made considerable progress in improving the quality of its cotton. Cultivators who reverted to growing cotton during the last few years did not plant the same short staples they grew before the war, but switched to improved varieties developed in the meantime. In this cotton improvement and development work, the Indian Central Cotton Committee, founded in 1921 and known as ICCC, played an important part. This Committee, which raises its funds from a levy on cotton consumed by mills and exported, wholly or partly finances cotton research and extension projects carried on in conjunction with the State agricultural departments. Under these projects, several improved varieties of cotton have been bred and propagated. In 1953–54, nearly 11 million acres, or 65 percent of the total cotton area, were planted to the improved types, as against 50 percent in 1950–51.

The increase in average staple lengths during the past few years has been even more striking. Cotton of $\frac{7}{8}$-inch staple and longer made up 35 percent of the total crop in 1954–55, against 23 percent in 1950–51. However, production of staples of 1 inch or longer is still limited to 2 or 3 percent of the total crop.

Outlook for 1961

By 1961, when the Second Five-Year Plan ends, the domestic cotton crop (given average weather) may be expected to reach 5.7 million bales. This forecast is based on two assumptions: That total cotton area will reach at least 20.4 million acres, with irrigated cotton area increased by 2.5 million; and that average yield per acre will approach 110 pounds. It seems reasonable to assume also that the newly irrigated area will be planted to cotton of at least $\frac{7}{8}$-inch staple, and that short staples ($\frac{11}{16}$ inch and below) will not account for more than 15 to 20 percent of the crop. Thus the breakdown of the 1960–61 crop may look about as follows (in thousands of bales):

$1\frac{1}{16}$ inches and above	175
1 inch to $1\frac{1}{32}$ inches	175
$\frac{7}{8}$ inch to $\frac{31}{32}$ inch	2,550
$\frac{23}{32}$ inch to $\frac{27}{32}$ inch	1,800
$\frac{11}{16}$ inch and below	1,000
Total	5,700

In the Second Five-Year Plan, India is shifting emphasis from agriculture toward industry. Even in agricultural planning, it is diverting attention to some extent from food crops to industrial crops, including cotton. It is continuing its efforts to expand cotton production to meet the anticipated requirements of the domestic textile industry. The hope is that the larger population, increasing at an estimated rate of 4 million a year, plus the increased employment visualized under the Plan, will stimulate per capita cloth consumption.

The 1960–61 target envisioned in early 1955 was 5.5 million bales. In September 1956 ICCC raised the target to 6.5 million bales. The analysis that follows, however, is based on the earlier figure.

Expansion of Acreage

ICCC believes that the cotton area can be expanded from 1954–55's 18.7 million acres to 20.4 million acres by 1960–61. Of this, ICCC expects that 4.2 million acres will be irrigated. These targets are based on the assumption that, under normal weather conditions, the average yield of an irrigated acre will be one-half bale (196 pounds) and that of a rain-fed acre 85 pounds.

An analysis of available data indicates that with average weather conditions the above targets are likely to be attained or exceeded. In view of the large irrigation and land reclamation projects under way or planned, the increase of nearly 2 million cotton acres seems realistic. In 1955–56, 2 million acres were shifted from other crops to cotton, as a result of good soil moisture at planting time and of high cotton prices relative to prices of other crops. But whether or not this shift will prevail and thus double the additional cotton acreage by 1961 will depend on future relationships between cotton prices and food-crop prices.

Official sources expect that out of the 9.2 million acres proposed to be brought under irrigation in the principal cotton States during the two Plan periods, more than one-third, or 3.1 million acres, will be in cotton. Judging from the experience gained under the First Five-Year Plan, this seems too optimistic. Most of the area newly irrigated under that Plan has been planted to crops other than cotton. By the end of the third year, 8.1 million acres had been brought under irrigation (2.8 million from major projects and 5.3 million from small-scale projects); but cotton was grown on only 500,000. This brought the irrigated cotton area to only 1.6 million acres in 1953–54.

Nevertheless, considerably larger acreages of cotton are expected to benefit from irrigation in the next few years as the major projects in the cotton-growing States are completed. The Bhakra-Nangal project, to be finished by 1960, will irrigate 3.4 million acres in the States of Punjab and PEPSU. About 875,000 of these are likely to be in cotton—mostly Punjab-American. The lower Bhawani project will irrigate 200,000 acres in Madras State; 100,000 of them will presumably grow cotton. The Kakrapara project in Bombay Gujerat will irrigate nearly 100,000 cotton acres; the Tungabadra project, a total of 700,000 acres in Hyderabad, Andhra, and Mysore States; and the proposed Chambal project in Madhya Bharat will cover 1.2 million acres.

All these major projects will increase the irrigated cotton area by no more than 1.5 million to 2 million acres, though additional areas will benefit from small irrigation projects, including wells. Altogether, it is unlikely that more than 2.5 million acres under cotton will receive irrigation water for the first time during the next 6 years. Thus, by 1960–61, the total cotton area under irrigation may rise at the most to 4 million acres.

Increase in Yields

Based on official estimates the average yield per acre during the 15 years that ended with 1950–51 was 79 pounds. But annual investigations by the ICCC into the accuracy of these estimates show a consistent underestimation of the crop. During the 12 years ending with

1950–51, the annual extent of underestimation ranged from 8 to 28 percent and averaged 17.7 percent. Hence the actual average 1936–50 yield may be taken as nearly 93 pounds per acre. The 20.4 million acres of cotton planned for 1961 would thus produce about 4.8 million bales. Yields can be boosted, however, by the extension of irrigation, greater use of chemical fertilizers, and the adoption of better seed and improved cultural practices.

Irrigation.—Irrigation by itself, according to the ICCC, raises the yield by at least 100 percent on the average; and early planting with irrigation before the monsoon begins can boost the yield 3 to 4 times. The mere availability of irrigation water on an additional 2.5 million acres may thus be expected to yield a minimum extra crop of 625,000 bales.

Fertilizer.—The next major means of boosting the unit yield is the use of chemical fertilizers. Until the official cotton expansion program came along, Indian cultivators did not customarily apply chemical fertilizers directly to the cotton crop. In some places the previous rotation crop—usually a food crop—was heavily fertilized, according to the theory of delayed benefit to the succeeding cotton crop. Out of India's estimated ammonium sulfate consumption of 400,000 tons in 1953–54, only 15,000 tons are believed to have been applied directly to cotton. Since this is an advance from practically zero in 1950–51, cotton officials assert that a beginning has been made, and that cultivators are increasingly aware of the advantages resulting from the use of fertilizer.

The Government of India has created a fertilizer production committee to advise it on the prospective demand and supply. Pending the committee's report, various estimates for domestic requirements of nitrogenous fertilizers in 1961 range between 1 million and 1.5 million tons. Actual demand, however, will depend largely on the future trend of fertilizer prices in relation to prices of farm products, and hence on government support and subsidy policies.

The recommended application of ammonium sulfate for cotton is 2 hundredweight (224 pounds) per irrigated acre. The resulting additional output is figured at one-eighth of a bale. At this rate the application of 1 long ton of ammonium sulfate to irrigated cotton will produce an increment of 1¼ bales. Experience since 1950–51 indicates rather slow progress in this direction. Even though some "snowballing" effect will be evident from fertilizer applications, it would be unrealistic to expect that use of nitrogenous fertilizer by 1960–61 could exceed 150,000 tons—10 times the current amount. Application at that rate would produce an additional 200,000 bales of cotton.

Other Methods.—India's extension service is working with the growers to encourage the use of better seed and improved cultural practices. These measures, however, can probably add no more than 100,000 bales to the crop over the next 6 years.

Improved Varieties

Indian growers have achieved a fair amount of success in growing long staple cotton (1$\frac{1}{16}$ inches and over). A special incentive for growing these varieties is the fact that their prices are largely determined by those of comparable foreign growths. Indian cottons of shorter staples, on the other hand, are priced very much below the world level; the market is practically insulated by ceiling prices and by export quotas.[2]

Current commercial production of long staple is negligible, but four varieties are expected to be under cultivation soon on a fairly large scale: two in the Gujerat districts of Bombay State and two in Madras State.

Gujerat Long Staples.—The Gujerat varieties, 134 CO2–M and 170 CO2, were bred at the Surat station by a series of complex interspecific crosses between Asiatic and American types. Work on this project was started in 1939 and the two varieties were evolved in 1952. These varieties have apparently proved prematurely popular with the local cultivators. To the chagrin of the breeders, cotton growers somehow obtained seed of the early strains even before the station had certified them for general distribution. This seed was planted in 1954–55 on an estimated 80,000 acres, of which approximately 10,000 are under irrigation; but most of it must now be replaced with certified stock. The chief producing areas are in Sabarkantha, Kaira, and Baroda districts, in the Gujerat area of northern Bombay.

Of the two varieties, No. 134 is said to be superior to No. 170 in staple length, but No. 170 yields better under certain conditions. Breeders claim that the pure seed of No. 134 gives a staple length of $1\frac{1}{8}$ inches to $1\frac{3}{16}$ inches when grown under irrigation, and of $1\frac{1}{16}$ inches to $1\frac{1}{8}$ inches when rain-fed. No. 170 is shorter by $\frac{1}{32}$ inch to $\frac{1}{16}$ inch. When grown in bulk, both varieties suffer in staple by about $\frac{1}{16}$ inch. Nevertheless the breeders believe that the current crop of these varieties will yield an average staple length of slightly over $1\frac{1}{16}$ inches.

The immediate problem facing the Bombay Agricultural Department is to replace with pure seed the area now planted to these varieties. At the beginning of the 1954–55 crop year, only a few pounds of pure seed were available, but rapid multiplication is planned.

The potential area for growing these varieties in Gujerat consists of about 450,000 acres; 100,000 will be irrigated by the Kakrapara project now under construction, and most of the remaining 350,000 will continue to be rain-fed. However, much land in Gujerat is irrigated by wells and more will be added through the next few years. For any further expansion in the Gujerat irrigated area, the long staple cottons will have to compete with tobacco, now an equally important cash crop. An additional restrictive factor is their susceptibility to wilt, which researchers are attempting to breed out.

Gujerat can be expected to produce approximately 150,000 bales by 1960–61. In addition, small acreages may eventually be planted to these two varieties in other parts of Bombay where irrigation is available, though soils are said to be less suitable.

Madras Long Staples.—The Madras varieties, MCU1 and MCU2, are derived from crosses between Madras Cambodia and a Uganda variety. MCU1 has a staple of to $1\frac{1}{16}$ inches and spins 45s; MCU2 is longer, with a staple of $1\frac{1}{16}$ to $1\frac{1}{8}$ inches and spins up to 50s. Despite the difference in the staple length, both are known in the trade as "Rajapalayam" cotton. They are grown during both summer and winter, although MCU1 gives best results in the winter and MCU2 in the summer.

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[2] On April 8, 1955, Fine Jarila ($\frac{25}{32}''$) was quoted at the equivalent of 17.47 U. S. cents per pound, as compared with the U. S. price of 33.40 cents for middling $\frac{15}{16}$ on the same day. Gujerat CO2 ($1\frac{5}{32}''$) was selling for the equivalent of about 35 cents at Bombay.

The State Department of Agriculture plans to expand the cultivation of these varieties from the present 150,000 acres to cover the entire "Cambodia" area of about 300,000 acres, demarcating the growing area for each variety. Thus by 1960–61 MCU1 may be grown on 250,000 acres and MCU2 on 65,000, with about half the area under irrigation. MCU1 will also be encouraged in the Lower Bhawani project, where 100,000 irrigated acres will become available for cotton. Yield is reported at 196 pounds per acre on irrigated land and 120 pounds on dry land. Thus Madras long staple production by 1961 may total 175,000 bales, of which 150,000 will be MCU1 and 25,000 MCU2.

Mysore Long Staple.—Another Indian variety, slightly longer than 1 inch but less than 1$\frac{1}{16}$ inches, is Mysore-American MAV, grown in Mysore State. Production of this variety, currently about 15,000 bales, may be expanded to 25,000 bales by 1960–61.

Other Varieties.—Further research for suitable longer and better varieties is being pursued with vigor by various State agricultural departments in collaboration with the Indian Central Cotton Committee. Bombay is said to be working on several promising cottons evolved from indigenous material, with staples as long as 1$\frac{3}{16}$ inches. But researchers do not expect to be able to obtain a suitable variety for general cultivation for at least a decade. Punjab is currently working on five strains with staple lengths ranging from 1.06 inches to 1.15 inches. Madras is trying to develop a Sea Island hybrid cotton on the west coast of South India.

Evaluation.—By 1960–61, production of cotton stapling 1 inch and longer may total 350,000 bales, or three times the 1953–54 output, as shown below (in thousands of bales):

	1 inch and over, but below 1$\frac{1}{16}$ inches	1$\frac{1}{16}$ inches and over
Bombay State	---	150
Madras State	150	25
Mysore State	25	---
Total	175	175

The prospect for developing these long staple varieties to replace imported cottons may not, however, be as bright as official statements imply. Breeders seem to be concentrating excessively on staple length and paying insufficient attention to other qualities required by the spinner. For instance, although the Gujerat long staples were declared to spin 40s on the basis of laboratory tests, in actual practice mills have found that by themselves they will not spin higher counts than 26s to 30s. All the new indigenous long staples are said to lack thickness and strength, and the large percentage of short staples in the Madras varieties is evidence of considerable seed impurity. A good deal of further research, with more emphasis on physiological and ecological factors, seems to be needed.

Production and Consumption of Cloth

Background

No direct data are available regarding the consumption of cloth in India, but the quantity available for consumption in any particular year is usually assumed to equal that actually consumed. On this basis, per capita consumption during the decade before the last war is calculated at an average of 16 to 17 yards a year. During the war and immediately afterward, per capita availability declined to between 12 and 15 yards; for India was a major supplier of cloth to the Allied military forces, and partition later temporarily curtailed cotton supplies. Subsequent reductions in mill output, coupled with heavy exports, resulted in a further fall in domestic consumption, to a low of 9.7 yards in 1950–51. Greater production restored per capita availability to slightly more than 15 yards in 1953–54 and 1954–55. This is just below the level set by the National Planning Commission for the end of the First Five-Year Plan, 1955–56.

Outlook for 1961

By 1961, India's per capita demand for cloth at current prices may reach 18 yards a year. With population at about 400 million, domestic requirements for cloth will thus be 7,200 million yards. Exports will remain at about the current level of 1,000 million yards. Hence total cloth needs will be 8,200 million yards.

Domestic Demand

Stepped-up public expenditures under the two 5-year plans and a general increase in economic activity are expected to result in greater employment and a higher per capita income over the next few years. Per capita demand for cloth will therefore expand also: the Textile Inquiry Committee expects it to reach 18 yards by 1960 at present prices; the Minister of Commerce and Industry contends that it might go up to 20 yards, and the Ministry of Agriculture is also reported to have asked ICCC to plan the cotton development program for the Second Five-Year Plan on the basis of a 20-yard per capita requirement by 1960–61.

Present per capita cloth availability, despite a consistently high level of mill activity in the last 3 years, is still lower than prewar, when it seemed to be approaching an average level of 17 yards. However, a slight increase of per capita consumption to at least 18 yards by 1961 is quite likely if it is assumed that the official national income targets for the Second Five-Year Plan will be partly attained and that income will be more equitably distributed. The target announced for the Second Plan is an increase of 25 percent (5 percent per year) in national income by 1961. This target may be overoptimistic. Too, in order to assure continued growth of the national income, much of it must be plowed back into capital investment each year. And population is expected to rise, from the 357 million of the 1951 census to 400 million. Considering these factors, there seems little reason to expect a rise of more than 10 percent in *disposable* personal income over the next 5 years. This would be likely to lead to a proportional jump in per capita demand for apparel fibers, equivalent to about 1½ yards of fabric.[3] Total domestic need in 1960–61 is thus assumed to be 7,200 million yards.

Imports

There is little likelihood of any sizable imports of cloth in the near future. Although import restrictions have been relaxed and tariffs substantially cut, import duties are still too high to permit considerable imports. The consensus of the textile industry and trade is that future cloth imports will consist mostly of kinds not produced in the country, and will not exceed 15 million yards a year.

Exports

Since World War II, India has emerged as one of the world's leading exporters of cloth, and the government is actively assisting efforts to maintain or improve this position. But experience before 1953 cannot serve as a guide to the future trend, for until 1953 exports were subject to quantitative control. In 1950–51, following a liberalized export policy, India exported 1,270 million yards. This caused a cloth famine in the country, since domestic production was reduced by a cotton shortage. Next year the government cut exports drastically, but relaxed restrictions again after an upturn in domestic output. Exports are at present permitted freely.

India exported only 715 million yards in 1953; the trade felt that this could have been considerably exceeded but for the high export taxes. By the end of January 1954 all export taxes had been abolished except a 10–percent tax on coarse cloth (counts below 17s warp), which was further reduced to 6¼ percent effective March 1, 1955. Abolition of the import duty on raw cotton in March 1954 gave further stimulus to exports of higher quality fabrics. The 1954 experience thus seems a good yardstick by which to forecast the future.

During 1954, India exported 898 million yards of mill-made cloth; about 12 million pounds of cotton manufactures, equivalent to about 50 million yards of cloth; and an estimated 57 million yards of handloom cloth. Total cloth exports were thus slightly more than 1,000 million yards. (In 1955, however, exports of mill cloth dropped to 815 million yards.)

The Textile Inquiry Committee foresees no possibility of India's exceeding the 1,000-million-yard level in the near future; in fact, some committee members doubt that it can be maintained. The 1955 figures give some justification for such pessimism. But it should be noted that during 1954 shipments of Indian coarse and medium cloth alone totaled 800 million yards. The 1955 cut in the tax on coarse-cloth exports from 10 percent to 6¼ percent, designed to enhance their competitive position in foreign markets, is expected to result in higher exports. Moreover, Indian settlers abroad provide a certain minimum demand for fine and superfine dhotis and saris. These favorable factors, however, may be more than offset by certain adverse developments: sustained agitation by British textile interests against unrestricted United Kingdom imports of Indian grey goods; potential competition from Japan; the efforts of less industrialized countries like Pakistan, which currently import textiles, to develop their own textile industries; and the efforts of other underdeveloped countries to enter the export market. The 1,000-million-yard figure should thus be regarded as a maximum. Any decline below it may be offset by a domestic demand larger than the conservative estimate already given.

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[3] FAO Commodity Series, "Natural and Man-Made Fibers, a Review," Bull. No. 26, Rome, 1954, p. 9.

Competition From Rayon

Domestic cloth consumption is not likely to be affected by current plans for constructing additional rayon filament plants. The country already has an organized rayon-weaving industry, producing an estimated 300 million yards of fabrics a year, largely from imported yarn. The additional rayon filament production will simply result in a corresponding reduction of yarn imports. Rayon fabrics are consumed in India mostly by urban people, and for climatic reasons do not displace cotton goods to any significant extent.

During the last 5 years, production and consumption of spun rayon has been sizable. About 20,000 cotton-system spindles are now employed in spinning yarn from imported and domestic staple fiber. Production of spun rayon is estimated at 25 million to 27 million pounds a year. Most is consumed by hand-loom weavers, who use the yarn in weaving mixed fabrics and borders for saris. A few mills manufacture mixed cotton and spun rayon fabrics and market them as "linen." In effect, therefore, spun rayon competes with silk and with other synthetic fibers rather than with cotton yarn in the manufacture of textile fabrics. The demand is believed to have leveled off, and no further significant increase in staple-fiber consumption is anticipated.

Cotton Requirements

Background

Coarse and medium millcloth has accounted for an increasing share of India's cloth output during the past few years. The proportion of goods below 35s counts decreased from 80 percent of the total in 1946 to 60 percent in 1950 and 1951, but has climbed steadily since then, to 83 percent in 1954. This, however, does not necessarily reflect a change in consumer demand. Between 1946 and 1953 the quality pattern of mill production was determined more by cotton availabilities than by consumer preference. Partition in 1947 cut off a major source of the cotton that Indian mills required for spinning 20s to 30s. Adequate supplies of equivalent varieties were unavailable from other countries at suitable prices. In order to maintain volume of output, Indian mills had to import longer staple cottons and spin higher counts.

By 1954 the supply situation appeared to have been restored to normal, and requirements of domestic cotton were fully met. The industry's production pattern in 1954 is thus believed to reflect current demand accurately. During 1954, mills produced 1,562 million pounds of yarn, consuming 4,677,600 bales of raw cotton. Consumption by staple lengths was as follows:

	Variety	*Quantity (bales)*	*Percent of total*
Below 1$\frac{1}{16}$ inches	Indian and Pakistani	3, 954, 000	84. 5
1$\frac{1}{16}$ inches to 1¼ inches	U. S. East African Ashmouni Zagora Peruvian Sudan	443, 000	9. 5
Over 1¼ inches	Egyptian (others) Peruvian Sudan	281, 000	6. 0

Outlook for 1961

Assuming no significant change in consumer tastes, the pattern of cotton consumption by mills will be approximately the same in 1961 as in 1954: Total yarn requirements for all uses can be estimated at 1,900 million pounds, which is equivalent to 5,700,000 bales of cotton. Of this quantity of cotton, 4,800,000 bales will be below 1$\frac{1}{16}$ inches in staple length, 550,000 bales between 1$\frac{1}{16}$ inches and 1¼ inches, and 350,000 bales over 1¼ inches.

Pattern of Cloth Production

The fact that the production pattern for millcloth has almost reverted to that of more than a decade ago suggests that consumer tastes have not materially changed. It seems reasonable to assume that the next 5 years will not witness any significant shift. Hence the bulk of cloth exports will probably continue to be of coarse and medium counts, as in 1954, and higher demand from lower income groups will result merely in larger domestic sales of these lower count goods. Heavier taxation is expected to limit demand for higher quality goods among the middle classes. The pattern of cotton consumption in 1961, therefore, is assumed to be the same as in 1954.

One of the major recommendations of the Textile Inquiry Committee is that mill production be frozen at the current level of 5,000 million yards, in order to permit a sizable, though gradual, expansion of output from hand looms and small power looms. Indications are that the government will simply continue to bar any increase in mill loomage beyond the current level. In this case, mills could still step up production to about 6,200 million yards with additional shifts. But hand looms and small power-loom units would have to produce at least 2,000 million yards, increasing their current output by about 25 percent.

Yarn Requirements

During 1953 and 1954, mills produced between 4.3 and 4.4 yards of cloth per pound of yarn consumed. The Handloom Board estimates that hand looms and small power looms weave, on the average, 4.5 yards of cloth from 1 pound of yarn. Hence, yarn requirements for producing 8,200 million yards of cloth can be estimated at 1,850 million pounds.

In addition, cotton yarn is used in nonweaving industries like hosiery and rope-making. On the assumption that 14 percent of the yarn sold by mills is so used, current consumption by these industries is estimated at 50 million pounds a year. Significant expansion in this demand seems unlikely in the immediate future. Total 1961 cotton yarn requirements are thus roundly estimated at 1,900 million pounds.

As a result of government policy, yarn imports are negligible (currently 2 million pounds a year) and are not expected to increase. Yarn exports, too, have been quite small in recent years; government policy is to permit them only when there is a surplus in the country. In view of the already overtaxed spinning capacity, the Second Five-Year Plan makes no provision for such exports. It can be assumed, therefore, that the total yarn production of Indian mills will be used by the Indian textile industry.

Cotton Exports

Domestic production of cotton shorter than 1$\frac{1}{16}$ inches in 1961 will be about 5,500,000 bales. Against this, total domestic requirements will be 4,800,000 bales for mills, and probably about 270,000 for non-mill uses like mattresses and hand spinning, making a total of 5,100,000 bales. Thus the annual domestic surplus will amount to about 400,000 bales.

In past years the government has not favored large exports of raw cotton, except for such harsh varieties as are not ordinarily consumed by domestic mills. However, in an attempt to bolster declining prices of domestic cotton, a liberal quota of $\frac{3}{4}$-inch cotton was freed for export in 1954–55. The total export quota for 1954–55 was 525,000 bales, though only 269,000 bales were shipped. The 445,000-bale export allocation for 1955–56, plus the carryover of the previous year's unused licenses, adds up to a record export availability of nearly 700,000 bales for 1955–56, of which over 550,000 had actually been shipped during the first 8 months. Greater export allocations—even of longer staples—may be made in the future as it becomes increasingly apparent that the domestic supply situation no longer justifies the export-restriction policy of past years. Indian staples, with their low prices, should always be able to find an export market—especially in Japan—particularly if foreign importers are assured of a minimum long-term supply.

Cotton Imports

Background

Before 1949–50 the bulk of India's requirements for foreign long staples (1$\frac{1}{16}$ inches to 1$\frac{1}{4}$ inches) was met by East Africa. The United States did not enter this market in earnest until that year, stepping up shipments to a total of 1.5 million bales during the following three seasons in an effort to help make up the deficit in Indian mill requirements. In 1953–54, the first postwar year of "normal" supply and demand conditions, U. S. shipments fell sharply. Indian mills consumed only 154,000 bales of U. S. cotton in that season and only 168,000 in 1954–55.[4]

During this time, East Africa maintained a steady outlet in India. Annual mill consumption of Uganda cotton for 1949–50 to 1953–54 averaged 220,000 bales; consumption in the "normal" seasons of 1953–54 and 1954–55 was 212,000 bales and 217,000 bales, respectively. In the latter year, 270,000 bales were imported from Uganda, against only 109,000 from the United States.[5]

Indian mill consumption of long staple from the Sudan has been declining in recent years from more than 100,000 bales in the 1941–47 period to an average level of 58,000 bales between 1951–52 and 1954–55. However the Sudan's newly found political independence is likely to lead to some independence of its exports also. A high-level Sudanese trade and good-will delegation, headed by the Prime Minister, visited Bombay in early 1955, and Indian traders expect a resumption of large-scale imports from the Sudan before long. Imports in 1954–55 were 76,000 bales; they rose to 68,000 bales for the first 6 months of 1955–56.

Consumption of "other" cotton (mainly Mexican and Brazilian) marked a record of 67,000 bales in 1946–47, but has since declined steadily, to a mere 5,000 bales in 1954–55. Actual imports in 1954–55 were only 2,000 bales.

Outlook for 1961

By 1961, domestic growths are expected to supply about 175,000 bales of India's anticipated 900,000-bale annual requirements of long staple cotton (over $1\frac{1}{16}$ inches). Even though the spinning qualities of indigenous long staples may not come up to those of foreign fibers for some time, Indian spinners will presumably use ever larger amounts of domestic long staples for mixing with imported cotton, particularly if the current price differential of 2 to 3 cents per pound continues. By 1961 there is expected to be a fairly steady demand for about 350,000 bales of extra-long staple Egyptian, Sudanese, and Peruvian cotton. This leaves a balance of only about 375,000 bales of long staple to be obtained from abroad: East Africa will probably furnish 250,000 bales, and the Sudan at least 25,000.

On the assumption that "other foreign" countries (including Russia) will enter this market only to a limited extent during the next 5 years, India would seem to be a potential purchaser of not more than 100,000 bales of U. S. cotton annually.

Demand for U. S. Upland Cotton

In a forecast of the probable demand for U. S. cotton in India by 1961, the commercial facts of life must be faced. It would be futile to deny that, at approximately equal CIF prices, most Indian mills—particularly those in Ahmedabad—have a decided preference for East African and Sudanese cotton. Imports of U. S. cotton into India in the years ahead will depend on relative prices, with Indian buyers turning to the U. S. market only when East African and Sudanese supplies are exhausted or when U. S. prices are sufficiently attractive.

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[4] The very low level of imports from the United States during the first half of the 1955–56 season (7,000 bales) can be considered decidedly abnormal; it was mostly the result of the importers' protracted uncertainty regarding the outlook for U. S. export-pricing policy.

[5] The level of imports from East Africa during the first semester of 1955–56 (45,000 bales) was also abnormally low, probably owing to the restrictions that the government imposed on nondollar imports of medium staples in the spring of 1955.

This prognosis is based on the assumption that there will be no change in the Indian Government's nondiscriminatory cotton-import policy. In the past, Indian importers have been free to purchase cotton from any source—including dollar sources—within the overall allocations periodically established by the government for foreign cotton of 1$\frac{1}{16}$ inches staple and longer. Any tightening of this policy would, of course, further reduce the outlook for imports from the United States. If suitable nondollar sources can be found, particularly in areas which are, or will be, markets for Indian exports, a deliberalization of the government's dollar licensing policy is not unlikely. Sales of U. S. cotton to India for local currency within India's normal import requirements would in the short run be likely to reduce the pressures brought to bear by local industry on the government to program dollars for cotton imports. There has been evidence of discriminatory licensing, both in favor of and against U. S. cotton, in the last 2 marketing years.

Three factors could improve the outlook for U. S. cotton: (1) A large measure of export price flexibility for U. S. cotton, under which prices of the two competing suppliers could be matched at any given moment; (2) more scrupulous attention by U. S. exporters to the specific requirements of Indian mills, and strict adherence to contract specifications; (3) better understanding between buyer and seller.

On the first point, a word of caution might be expressed with regard to U. S. initiative in "competitive," i. e., subsidized, export pricing programs. Such measures, if taken to obtain a momentary price advantage, are unlikely to benefit the United States in this market. East Africa and the Sudan, through their particular marketing systems, are in a position to match every such U. S. move cent for cent and will presumably win any such race. They are not bound to price floors, and their average costs of growing cotton are certainly below U. S. costs. In other words, a short-term subsidy program would be expensive to the U. S. Treasury and of doubtful long-run value as far as the Indian market is concerned.

On the other hand, a program for gradually lowering U. S. cotton export prices—and thus, world prices—with a view to expanding consumption of cotton may meet with some success in India, where the consensus of the trade is that foreign cotton is too expensive. However, in India, where foreign cotton is and will increasingly be marginal to the cheap domestic supply, it is doubtful whether a drop of a few cents per pound in the price of foreign cotton will call for any significant reduction of textile prices. If the current low level of domestic cotton prices is maintained in India, it is also unlikely that the world price of cotton will have any bearing on the size of India's cotton crop or acreage. As a matter of fact the acreage is steadily increasing even at the low prevailing prices.

If U. S. growers want to keep their cotton in this market in competition with the cotton of Uganda and Sudan—even in the face of the irremovable handicaps which will become increasingly evident—some changes in methods of marketing U. S. cotton in India and a better understanding between the U. S. and Indian trade will be called for. The following analysis of the competitive position of U. S. cotton in India and recommendations for modifications of marketing practices may give an idea of the task ahead.

Competitive Position of U. S. Cotton

Practically all Indian mills have a decided preference for African long staples over American Upland. Opinion among the Bombay trade is that spinners will pay from ½ cent to 1½ cents more per pound for Uganda BP 52 than for U. S. strict middling $1\frac{5}{32}$ inches, which is considered roughly equivalent. The reasons for this preference are many; some are justified, but others are based on vague prejudices. From a number of discussions held with well-informed local trade contacts, with the occasional help of visiting USDA specialists, the following factors have emerged, to give a reasonably accurate picture of the situation:

1. Uganda has been the traditional supplier of long staple cotton for Indian mills. Ginning and exporting in Uganda are largely in the hands of Indian firms, many of which are also importers. (This does not mean that the ginners necessarily ship their own cotton to their Indian parent firms, since all cotton is auctioned by the Lint Marketing Board.)

2. The quality within each lot of Uganda cotton imported runs so even that this cotton "can be bought blindfolded," as one trader puts it. As with domestic cotton, only 4 percent of the bales are sampled, and disputes—which arise infrequently—are arbitrated in Bombay. In addition, Indian traders feel sure of obtaining the variety purchased (e. g., BP 52 or Busoga), and the Lint Marketing Board's simple classification into three grades is rigidly enforced. All bales are indelibly gin-marked.

3. African cotton is roller-ginned. Rightly or wrongly, most Indian spinners still prefer this method.

4. The character and color of African cotton is said to be well adapted to producing a retail quality of grey goods (of 32s to 40s counts) for the Indian mass market of dhotis and saris. (On the other hand, mills are said to prefer U. S. cotton for processed goods.)

5. By contrast the Indian trade unanimously complains that the grade and character of U. S. cotton varies so greatly from bale to bale within each lot that (*a*) Indian spinners, who are not accustomed to blending it at the mill, find it difficult to handle and (*b*) every bale of U. S. cotton has to be sampled. Moreover, Indian importers and mills feel that many U. S. exporters (with specific exceptions, of course) are consistently attempting to ship grade and staple below contract specifications. Thus, allowances are continuously being claimed, and hardly a shipment seems to be exempt from Liverpool arbitration. One prominent importer states that, on the average, 25 percent of U. S. cotton is found to be below contract grade. It should be noted here that India seems to be the only major importer of U. S. cotton that does not arbitrate at home. Thus, considerable expense

is incurred in shipment of samples and delayed arbitration. However, the East India Cotton Association is preparing to establish an arbitration board in Bombay under the authority of the Universal Standards Agreement to which they are signatories.

6. Indian importers complain that U. S. marketing practices do not, as a rule, permit a determination of place of origin of U. S. cotton and of the crop year, both of which are strictly identifiable in both Indian and African cotton. When Indian spinners contract for Californians, for instance, they do not want to receive cotton from some other area; but when they suspect that the origin is not as specified, they are generally unable to prove their suspicions. And Indian spinners seem convinced that—in addition to tinging, which is a matter of grade—fiber strength (and thus spinning quality) will deteriorate in cotton stored for more than 1 year, despite repeated assurances from U. S. experts that this is contrary to U. S. experience.

7. As a result of frequent sampling and inferior wrapping, U. S. bales are always in a rather unkempt condition when they arrive. Against this, African (including Egyptian) bales are neatly wrapped in burlap and are not cut open until delivered, at which time only 4 percent are sampled.

8. Dissatisfaction in 1951–52 over the amount of country damage found in the huge U. S. shipments received during that year is still an important psychological factor in the Indian trade's attitude toward U. S. cotton. All trade claims in this connection have apparently been settled in one way or another, and the controversy is now largely a matter to be settled among various insurance companies. Yet it is not forgotten either by the mills or by the importers, who still feel that they did not receive adequate consideration from U. S. shippers. Incidentally the Indian trade, which is accustomed to buying cotton from countries where the government assumes a large amount of responsibility for export quality, finds it difficult to understand why this should not be so in the United States. One prominent millowner, as a matter of fact, commented in private that he could not see why a country such as the United States, which excels in the quality of its manufactured goods all over the world, should not maintain a better standard of export quality for cotton.

9. A minor handicap is the Government of India's requirement that all Western Hemisphere cotton be subject to fumigation at the port of entry. Not only does this process result in extra handling and occasional delays—particularly when large consignments are received—but, at the current charge of Rs. 7/3 per 500-pound bale, it adds about 30 points per pound to the price of American cotton.

10. Since India imports preferably California cotton, most of which is reportedly machine picked, Indian spinners complain a good deal about leaf, trash, and grass. The leaf and trash merely result in a more costly cleaning process and greater waste in spinning. The grass is a more serious problem, since much of it cannot be removed and its presence reportedly leads to frequent loom stoppages.

There seems to be no easy answer to any of the above-listed drawbacks that U. S. cotton has in the eyes of Indian customers. In fact, it may not be reasonable to expect that the U. S. cotton trade should change certain marketing practices—such as gin marking, sampling, and wrapping—with a view to satisfying this foreign market. However, efforts might be made to eliminate, or at least alleviate, some of the Indian objections, in ways that do not require extensive modification of institutionalized U. S. practices. Such ways might include the already planned establishment of an arbitration board in Bombay and more frequent and thorough exchange of visits by competent technical and marketing specialists of both countries. For instance, to remove the widespread objection to uneven quality, a U. S. technical mission might assist Indian spinners over a period of weeks or months in the development of blending techniques such as U. S. mills use. An Indian mission might be brought to the United States to convince themselves that their prejudice against "old crop" cotton is unjustified. A good deal of misunderstanding between exporters and importers might be removed if they could agree, on the basis of amicable discussions, that Indian importers on the one hand will not resort to arbitration of claim allowances except in clearly justifiable cases and U. S. shippers on the other hand will keep down the number of justifiable cases by adhering more strictly to contract specifications and quoting their prices in accordance with such policy. Other minor points, such as the difference in stapling between roller-gin and saw-gin cotton, could also be resolved through discussion and reciprocal visits.

Appendix

TABLE 1.—*Cotton area, production, and average yield per acre, India, official final estimates, crop years 1936–37 to 1955–56*

Year beginning Sept. 1	Area	Production	Yield per acre
	1,000 acres	*1,000 bales* [1]	*Pounds*
1936	21,146	4,383	81.2
1937	21,831	4,392	78.9
1938	19,931	3,660	72.0
1939	18,213	3,733	80.3
1940	19,753	4,471	88.7
1941	20,464	4,477	85.8
1942	18,102	3,155	68.3
1943	17,508	3,705	83.0
1944	11,449	2,222	76.0
1945	11,565	2,167	73.5
1946	11,671	2,168	72.8
1947	10,655	2,188	80.5
1948	11,293	1,767	61.3
1949	12,173	2,628	84.6
1950	14,556	2,971	80.0
1951	16,188	3,133	75.9
1952	15,693	3,131	78.2
1953	17,021	3,935	90.6
1954	18,684	4,227	88.7
1955	20,230	3,998	77.5

[1] Bales of 392 pounds net.

Source: Indian Central Cotton Committee, Bombay.

TABLE 2.—*Cotton production by staple-length groups, India, crop years 1950–51 to 1954–55* [1]

[Quantity in thousands of bales of 392 pounds net]

Staple group	1950–51		1951–52		1952–53		1953–54		1954–55	
	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total
1 inch and above	47	2	55	2	72	2	120	3	1, 465	35
7/8 inch to 31/32 inch	637	21	863	27	916	29	1, 245	31		
13/16 inch to 27/32 inch	793	27	825	26	770	25	1, 082	28	1, 925	45
11/16 inch to 25/32 inch	655	22	398	13	475	15	541	14		
Less than 11/16 inch	839	28	992	32	898	29	947	24	837	20
Total	2, 971	100	3, 133	100	3, 131	100	3, 935	100	4, 227	100

[1] Year beginning Sept. 1.

Source: Indian Central Cotton Committee, Bombay.

TABLE 3.—*Official final estimates of cotton production in India*[1] *compared with "ascertained" crop, crop years 1938–39 to 1954–55*

[Quantity in thousands of bales of 392 pounds net]

Year beginning Sept. 1	Official final estimate	"Ascertained" crop [2]	Percentage of apparent official underestimation
1938	5, 120	6, 080	15. 8
1939	4, 942	5, 884	16. 0
1940	5, 785	6, 846	15. 5
1941	5, 980	6, 497	8. 0
1942	4, 798	5, 278	9. 1
1943	5, 366	5, 953	10. 0
1944	3, 653	4, 860	24. 8
1945	3, 602	4, 358	17. 4
1946	3, 639	4, 282	14. 0
1947	2, 188	3, 041	28. 1
1948	1, 767	2, 335	24. 3
1949	2, 628	2, 975	11. 6
1950	2, 971	3, 230	8. 0
1951	3, 133	3, 850	18. 6
1952	3, 131	3, 660	14. 5
1953	3, 935	4, 590	14. 3
1954	4, 227	[3] 5, 400	[3] 27. 8

[1] Pakistan included through 1946–47.

[2] Calculated by ICCC on the basis of all available direct and indirect data.

[3] Preliminary.

Source: Indian Central Cotton Committee, Bombay, *Report on the Accuracy of the All-India Cotton Forecast of 1951–52 Season*, and unpublished data.

TABLE 4.—*Cotton yarn and cloth, mill production in India, 1938–55*

Year	Cotton yarn	Cotton cloth
	Million pounds	*Million yards*
1938	1, 286. 0	4, 303. 9
1939	1, 264. 0	4, 113. 5
1940	1, 274. 5	4, 091. 4
1941	1, 537. 8	4, 530. 7
1942	1, 528. 8	4, 024. 4
1943	1, 670. 1	4, 715. 3
1944	1, 622. 9	4, 811. 4
1945	1, 625. 4	4, 687. 6
1946	1, 396. 5	4, 002. 8
1947	1, 295. 7	3, 762. 0
1948	1, 447. 6	4, 319. 3
1949	1, 359. 1	3, 904. 2
1950	1, 174. 2	3, 665. 1
1951	1, 303. 9	4, 076. 2
1952	1, 449. 1	4, 598. 6
1953	1, 505. 2	4, 878. 6
1954	1, 562. 0	4, 988. 5
1955 [1]	1, 620. 0	5, 040. 0

[1] Preliminary.

Source: *The Indian Cotton Textile Industry Annual, 1953–54*, and Office of the Textile Commissioner, Bombay.

TABLE 5.—*Cotton cloth available for domestic consumption, total and per capita, fiscal years 1934–35 to 1954–55*

Year beginning Apr. 1	Imports	Mill production less exports	Hand-loom and small power-loom production [1]	Quantity available for domestic consumption	
				Total	Per capita
	Million yards	*Million yards*	*Million yards*	*Million yards*	*Yards*
1934	940	3, 340	1, 240	5, 520	15. 6
1935	940	3, 500	1, 370	5, 810	16. 6
1936	750	3, 470	1, 280	5, 500	15. 5
1937	580	3, 840	1, 490	5, 910	16. 4
1938	630	4, 090	1, 920	6, 640	17. 9
1939	560	3, 790	1, 820	6, 170	16. 7
1940	440	3, 880	1, 650	5, 970	16. 0
1941	180	3, 720	1, 600	5, 500	14. 2
1942	10	3, 290	1, 500	4, 800	12. 0
1943	3	4, 410	1, 600	6, 013	15. 0
1944	5	4, 300	1, 500	5, 805	15. 4
1945	3	4, 230	1, 370	5, 603	14. 0
1946	16	3, 540	1, 350	4, 906	12. 2
1947	26	3, 570	1, 230	4, 826	14. 1
1948	47	3, 950	1, 170	5, 167	15. 0
1949	73	3, 140	1, 140	4, 353	12. 6
1950	5	2, 610	750	3, 365	9. 7
1951	9	3, 340	1, 160	4, 509	12. 5
1952	4	4, 200	1, 200	5, 404	14. 6
1953	5	4, 330	1, 400	5, 735	15. 3
1954	3	4, 232	1, 500	5, 735	15. 1

[1] Estimated.

Source: *The Indian Cotton Textile Industry Annual, 1953–54,* and official sources.

TABLE 6.—*Indian imports and exports of cotton yarn and mill cloth, fiscal years 1939–40 to 1954–55*

Year beginning Apr. 1	Cotton yarn		Cotton mill cloth	
	Imports	Exports	Imports	Exports
	Million pounds	*Million pounds*	*Million yards*	*Million yards*
1939	41. 1	36. 9	579. 2	221. 4
1940	19. 3	77. 5	447. 0	390. 1
1941	8. 2	89. 3	181. 5	771. 1
1942	. 9	34. 2	13. 0	819. 2
1943	. 6	19. 1	3. 7	462. 3
1944	. 2	16. 9	5. 2	423. 0
1945	. 1	14. 8	3. 2	457. 1
1946	. 2	3. 8	16. 2	318. 3
1947	8. 8	(1)	26. 5	192. 4
1948	11. 1	7. 4	47. 5	340. 9
1949	14. 2	64. 9	73. 1	700. 9
1950	. 5	74. 5	5. 7	1, 269. 7
1951	1. 8	6. 2	7. 9	423. 8
1952	2. 8	17. 3	4. 6	615. 8
1953	2. 2	22. 2	5. 2	765. 5
1954	1. 7	1. 3	3. 3	813. 7

[1] Less than 50,000 pounds.

Source: *Foreign Trade and Navigation Accounts of India; The Indian Cotton Textile Industry Annual, 1951–52.*

Table 7.—*Mill production of cotton yarn in India, by count, 1946–55*

Year	20s and below	Over 20s to 40s	Over 40s	Total
1946:				
Quantity million lb	837	448	111	1, 396
Percent of total	*60. 0*	*32. 1*	*7. 9*	*100*
1947:				
Quantity million lb	748	410	138	1, 296
Percent of total	*57. 6*	*31. 7*	*10. 7*	*100*
1948:				
Quantity million lb	974	371	102	1, 447
Percent of total	*67. 3*	*25. 6*	*7. 1*	*100*
1949:				
Quantity million lb	844	390	125	1, 359
Percent of total	*62. 1*	*28. 7*	*9. 2*	*100*
1950:				
Quantity million lb	660	393	121	1, 174
Percent of total	*56. 3*	*33. 4*	*10. 3*	*100*
1951:				
Quantity million lb	719	452	133	1, 304
Percent of total	*55. 1*	*34. 7*	*10. 2*	*100*
1952:				
Quantity million lb	867	497	85	1, 449
Percent of total	*59. 8*	*34. 3*	*5. 9*	*100*
1953:				
Quantity million lb	922	472	111	1, 505
Percent of total	*61. 2*	*31. 4*	*7. 4*	*100*
1954:				
Quantity million lb	911	536	114	1, 561
Percent of total	*58. 3*	*34. 4*	*7. 3*	*100*
1955:				
Quantity million lb	917	617	96	1, 630
Percent of total	*56. 3*	*37. 8*	*5. 9*	*100*

Source: Office of the Textile Commissioner, Bombay.

Table 8.—*Mill production of cotton cloth in India, by categories, 1946–55*

Year	Coarse (17s and below)	Medium (18s to 34s)	Fine (35s to 47s)	Superfine (48s and above)	Total
1946:					
Quantity______million yd__	926	2, 296	520	261	4, 003
Percent of total	*23*	*57*	*13*	*7*	*100*
1947:					
Quantity______million yd__	801	2, 061	622	278	3, 762
Percent of total	*21*	*55*	*17*	*7*	*100*
1948:					
Quantity______million yd__	798	2, 580	601	340	4, 319
Percent of total	*18*	*60*	*14*	*8*	*100*
1949:					
Quantity______million yd__	452	2, 309	809	334	3, 904
Percent of total	*12*	*59*	*21*	*8*	*100*
1950:					
Quantity______million yd__	422	1, 781	1, 201	261	3, 665
Percent of total	*12*	*48*	*33*	*8*	*100*
1951:					
Quantity______million yd__	363	2, 081	1, 348	284	4, 076
Percent of total	*9*	*51*	*33*	*7*	*100*
1952:					
Quantity______million yd__	503	2, 706	1, 194	195	4, 598
Percent of total	*11*	*59*	*26*	*4*	*100*
1953:					
Quantity______million yd__	599	3, 136	839	304	4, 878
Percent of total	*12*	*65*	*17*	*6*	*100*
1954:					
Quantity______million yd__	514	3, 651	479	344	4, 988
Percent of total	*10*	*73*	*10*	*7*	*100*
1955:					
Quantity______million yd__	572	3, 759	462	301	5, 094
Percent of total	*11*	*74*	*9*	*6*	*100*

Source: Office of the Textile Commissioner, Bombay.

TABLE 9.—*Mill consumption of domestic and foreign cotton in India, by origin, crop years 1941–42 to 1954–55* [1]

[In thousands of bales of 392 pounds net]

Variety	1941–42	1942–43	1943–44	1944–45	1945–46	1946–47	1947–48
Indian	2, 863	3, 030	2, 854	2, 992	2, 697	2, 144	2, 864
Pakistan	1, 006	1, 361	1, 344	1, 253	1, 261	1, 017	723
Total East Indian	3, 869	4, 391	4, 198	4, 245	3, 958	3, 161	3, 587
Egyptian	131	159	332	268	237	296	306
East African	273	167	174	236	208	200	195
Sudan	98	114	116	118	106	105	89
United States	13	2	(2)	(2)	(2)	6	5
Peruvian	----	----	----	----	11	67	21
Other foreign	52	22	12	21	43	22	8
All foreign	567	464	634	643	605	696	624
Total	4, 436	4, 855	4, 832	4, 888	4, 563	3, 857	4, 211
	1948–49	1949–50	1950–51	1951–52	1952–53	1953–54	1954–55
Indian	3, 124	2, 544	2, 517	2, 987	3, 611	3, 889	(3)
Pakistan	411	204	18	4	1	(2)	(3)
Total East Indian	3, 535	2, 748	2, 535	2, 991	3, 612	3, 889	4, 105
Egyptian	396	403	306	158	199	279	203
East African	186	282	228	163	216	212	217
Sudan	60	30	76	63	58	66	45
United States	52	174	444	679	367	154	168
Peruvian	21	33	28	16	7	5	13
Other foreign	5	15	6	1	1	3	5
All foreign	720	937	1, 088	1, 080	848	719	651
Total	4, 255	3, 685	3, 623	4, 071	4, 460	4, 608	4, 756

[1] Year beginning Sept. 1. [2] Less than 500 bales. [3] Not separately available.

Source: Office of the Textile Commissioner, Bombay.

Table 10.—*Imports of cotton, by country of origin, 1947–54* [1]

[Bales of 392 pounds net]

Country of origin	1947	1948	1949	1950	1951	1952	1953	1954
United States	16, 600	12, 801	493, 433	265, 525	912, 778	85, 634	191, 784	93, 456
Egypt	247, 264	455, 208	348, 126	252, 763	144, 799	253, 921	263, 668	142, 576
British East Africa [2]	174, 612	184, 318	288, 542	216, 494	136, 464	249, 327	191, 635	287, 205
Sudan	89, 572	36, 455	62, 732	71, 839	52, 314	79, 057	44, 670	78, 914
Brazil	1, 908	37, 251	2, 182					
Peru	10, 962	26, 407	41, 892	13, 084	11, 188	4, 714	365	3, 600
Pakistan	149, 166	322, 674	11, 817	5, 017	298			
Others	1, 522	3, 058	2, 093	5, 364	3, 474	2, 829	358	8, 278
Total	691, 606	1, 078, 172	1, 250, 817	830, 086	1, 261, 315	675, 482	692, 480	614, 029

[1] Year beginning Sept. 1. [2] Kenya, Tanganyika, Uganda.

Source: *Accounts Relating to the Trade and Navigation of India.*

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